

**Akishev, G. A.**

**The ortho-diameters of Nikol'skii and Besov classes in the Lorentz spaces.** (English. Russian original) [Zbl 1189.46019](#)

*Russ. Math.* 53, No. 2, 21-29 (2009); translation from *Izv. Vyssh. Uchebn. Zaved., Mat.* 2009, No. 2, 25-33 (2009).

*V. N. Temlyakov* has introduced the notion of the ortho-diameter of functional classes and he has obtained estimates for ortho-diameters of Sobolev and Nikol'skii classes in Lebesgue spaces [*Sov. Phys. Dokl.* 267, 314–317 (1982; [Zbl 0524.41013](#)); “Approximation of functions with bounded mixed derivative” (*Trudy Matematicheskogo Instituta im. V. A. Steklova* 178; Moskva: “Nauka”) (1986; [Zbl 0625.41028](#))]. This research has been developed in [*D. Zung*, *Math. USSR, Sb.* 59, 247–267 (1988); translation from *Mat. Sb., Nov. Ser.* 131(173), No.2(10), 251–271 (1986; [Zbl 0634.42005](#))], *E. M. Galeev* [*Math. Notes* 43, No. 2, 110–118 (1988); translation from *Mat. Zametki* 43, No. 2, 197–211 (1988; [Zbl 0659.42008](#))] and *N. N. Pustovoitov* [*Izv. Math.* 64, No. 1, 121–141 (2000); translation from *Izv. Ross. Akad. Nauk, Ser. Mat.* 64, No. 1, 123–144 (2000; [Zbl 1007.42004](#))]. The aim of the paper under review is to estimate the ortho-diameters of Nikol'skij and Besov classes in norms of anisotropic Lorentz spaces.

Reviewer: [Bohumír Opic \(Praha\)](#)

**MSC:**

[46E30](#) Spaces of measurable functions ( $L^p$ -spaces, Orlicz spaces, Köthe function spaces, Lorentz spaces, rearrangement invariant spaces, ideal spaces, etc.)

Cited in 1 Document

[46E35](#) Sobolev spaces and other spaces of “smooth” functions, embedding theorems, trace theorems

[41A30](#) Approximation by other special function classes

[41A46](#) Approximation by arbitrary nonlinear expressions; widths and entropy

**Keywords:**

approximation; anisotropic Lorentz space; ortho-diameter; Nikol'skii classes

**Full Text:** [DOI](#)

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